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# Before the FEDERAL COMMUNICATIONS COMMISSION Washington, D.C. 20554

In the Matter of	) CC 1	Docket No. 96-45
Federal-State Joint Board on	)	Docket No. 96-45 RECEIVED
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		FEDERAL COMMUNICATIONS COMMISSION OFFICE OF SECRETARY
To: The Common Carrier Bureau		OFFICE OF SECRETARY
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Further Comments of Association of America's Public Television Stations and Public Broadcasting Service

Paula A. Jameson Senior Vice President, General Counsel and Secretary

Gary P. Poon Assistant General Counsel

Public Broadcasting Service 1320 Braddock Place Alexandria, VA 22314-1698 Marilyn Mohrman-Gillis Vice President, Policy & Legal Affairs

Lonna M. Thompson Director, Legal Affairs

Association of America's Public Television Stations 1350 Connecticut Avenue, N.W., Suite 200 Washington, D.C. 20036

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## Summary

The Association of America's Public Television Stations ("APTS") and the Public Broadcasting Service ("PBS") submit these comments in response to specific questions raised by the Federal-State Joint Board in connection with the Commission's Notice of Proposed Rulemaking and Order Establishing Joint Board, released March 8, 1996, to establish rules to implement the universal service access provisions of the Telecommunications Act of 1996. APTS and PBS are commenting in response to questions 6 and 18.

In response to question 6, APTS and PBS believe that rules adopted to implement the universal service provisions of Section 254(h) of the Telecommunications Act: (1) should not unnecessarily limit the services to be included for discounted rates, and (2) must include, as services eligible for discounted rates, the educational services offered by PBS and public television stations. In addition, those rules must make clear that consortiums of educational television stations that provide distance learning services to educational facilities are eligible for discounted rates under the Act.

In response to question 18, APTS and PBS are providing information regarding discounted educational telecommunications services currently provided by state public television networks to schools, state agencies, and health care facilities. These entities expand educational opportunities to students and others throughout the state at substantial savings in cost and time.

Only a handful of states support state public telecommunications networks. Most schools, state agencies, libraries and health care facilities in this country do not have available the types of services provided by these state networks. Adoption of universal service rules would allow schools, libraries,

and rural health care facilities across the country access to the educational opportunities through telecommunications now available in only certain states. Further, the rules would allow these state networks to expand and enhance the services they currently offer.

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To: The Common Carrier Bureau

## Further Comments of Association of America's Public Television Stations and Public Broadcasting Service

The Association of America's Public Television Stations ("APTS") and the Public Broadcasting Service ("PBS") submit these comments in response to the request of the Common Carrier Bureau ("CCB Notice") for information on specific questions raised by the Federal-State Joint Board ("Board") relating to issues previously noticed in this proceeding. The Commission's Notice of Proposed Rulemaking and Order Establishing Joint Board, released March 8, 1996, in the above-captioned proceeding ("NPRM"), proposed rules to implement the universal service access provisions of the Telecommunications Act of 1996 ("Act"). In response to the NPRM, APTS filed comments on April 12, 1996, and PBS filed reply comments on May 7, 1996.

### Introduction

APTS and PBS are nonprofit organizations whose members comprise the licensees of nearly all of the nation's 351 public television stations. APTS represents its membership on a national level by presenting the stations' views to the Commission, Congress, the Executive Branch and to other federal agencies and policymakers. PBS provides program distribution and other services to its members. PBS is also a leader in the development of new and improved television technologies and frequently speaks for the public television community in matters relating to TV technology.

APTS and PBS are participating in this proceeding to offer input to Questions 6 and 18 of the Notice.

## Question 6. Should the services or functionalities eligible for discounts be specifically limited and identified, or should the discount apply to all available services?

Section 254(c)(3) of the Act specifically authorizes, in addition to those core telecommunications services that are to be supported by universal support mechanisms, the designation of additional advanced telecommunications services provided to schools, libraries and health care providers. As stated in their earlier filings, APTS and PBS believe that specific limitations should not be placed at this time on the services, functionalities or technical facilities that will qualify for discounted rates under Section 254(h)(1)(B). It is not possible for anyone to anticipate at this point what kinds of valuable educational services may be provided or the kinds of facilities that may be required to make those services available to classrooms nationwide. Therefore, eligible educational institutions should be permitted to determine what services and facilities they need to accomplish their educational goals.

Specifically, APTS and PBS urge the Commission to include in its definition of advanced telecommunications services eligible for discounted rates under Section 254(h)(1), the educational services currently provided by PBS and public television stations to elementary and secondary classrooms, libraries and health care facilities. The APTS and PBS filings in this proceeding detail the wealth of educational services offered by public

television, including Mathline, Ready to Learn, Ready to Teach, PBS On-line, and many other educational and interactive services. These services fulfill a multitude of needs and reach into millions of classrooms, libraries, workplaces and homes. These kinds of services could be made more widely available to schools, libraries, and health care facilities across the country if telecommunications facilities were available to carry them at discounted rates.

Therefore, APTS and PBS urge that the universal service rules adopted require that telecommunications carriers make available at discounted rates the broadband telecommunications facilities necessary to provide video and data services to schools, libraries, and health care facilities. Additionally, high speed data links must be included, as they are necessary to provide the interactivity component that is so important in engaging students' interest in distance learning programs and allowing them to participate actively in those programs.

Further, the Conference Report accompanying the Act specifically states that the "conferees intend that consortiums of educational institutions providing distance learning to elementary and secondary institutions be considered an educational provider" for purposes of Section 254(h)(5). Thus, in implementing Section 254, the Commission should make it clear that consortiums of educational television stations, such as those discussed in the APTS and PBS filings, would qualify for the discounted rates mandated by Section 254(h)(1)(B) of the 1996 Act. This will enable educational stations to make these services more widely available to schools and libraries, consistent with the intent of the statute.

In conclusion, APTS and PBS believe that rules adopted to implement the universal service provisions of Section 254(h) of the Act: (1) should not unnecessarily limit the services to be included for discounted rates, and (2) should include as services eligible for discounted rates, the educational services offered by PBS and public television stations. In addition, those rules must make clear that consortiums of educational television stations that provide distance learning services to educational facilities are eligible for discounted rates under the Act.

Question 18. What states have established discount programs for telecommunications services provided to schools, libraries, and health care providers? Describe the programs, including the measurable outcomes and the associated costs.

In response to this question, APTS and PBS have provided information related to selected state public telecommunications networks. This is not intended to be inclusive, but rather to provide the Commission and Board with a sampling of information regarding state public telecommunications networks that is responsive to the question above.

Only a handful of states support state public telecommunications networks. Most schools, state agencies, libraries, and health care facilities in this country do not have available the types of services provided by these state networks. Adoption of universal service rules would allow schools, libraries, and rural health care facilities across the country access to the educational opportunities through telecommunications now available in only certain states. Further, the rules would allow these state networks to expand and enhance the services they currently offer.

## Arkansas Educational Television Commission

#### 1. Services

The Arkansas Educational Telecommunications Network (AETN) satellite network offers distance learning, on-line, and various other educational services throughout the state. AETN's interactive educational services include preschool, secondary, and graduate courses and programs, as well as continuing adult education courses, designed, among other things, to enhance educational curriculums, provide college credit hours, and provide teacher training. Through its on-line services, AETN provides curriculum resources, interactive databases, local and national topic-specific discussion groups, and technology resources information to the citizens of Arkansas.

## 2. Measurable Outcomes/Efficiencies/Costs

AETN facilitates cost effective staff training for state employees. For example, Arkansas' Department of Human Services (DHS), the state's largest agency, used satellite distance learning to train over 6,000 employees statewide in Quality Management. The agency saved time and labor by accomplishing with one trainer in six sessions over a six month period, what a team of 10 trainers would have presented in 240 sessions over two years. Travel expenses were minimized because employees trained at downlink sites within an average 20 miles of home. The costs associated with training, labor, and time were approximately 8 percent of what they would have been for a team of 10 trainers.

The Arkansas Office of Emergency Services (OES) joined with the Arkansas Pollution Control & Ecology Department, the State Emergency Response Commission and the Arkansas Fire Academy, and used AETN satellite distance learning facilities to train and certify 3,600 "First Alert

Providers" at approximately 100 sites across the state. Distance learning helped them to complete the training in six sessions versus 120, and save more than 60 percent of estimated travel costs for trainees. Results proved successful with a 96 percent pass rate on a federally mandated test. This hazardous materials training program was identified by FEMA as one of the best in the nation.

The Arkansas Early Childhood Commission, in collaboration with the Arkansas Department of Human Services Child Licensing Division and the American Red Cross, used AETN satellite distance learning facilities to provide training for approximately 2,200 day care providers and workers all over the state to help meet mandated licensing requirements.

The Arkansas Department of Education conducted nine monthly statewide faculty meetings during the school year with approximately 320 school districts using AETN satellite distance learning facilities.

All of AETN's satellite distance learning services are provided through 6.8 percent of AETN's overall budget of \$8.1 million.

## South Carolina ETV

## 1. Services

The South Carolina Educational Television Network (SC ETV) launched a digital satellite network in 1993 which, using digital compression, provides up to 32 channels of programming simultaneously. The satellite transmissions are linked with an extensive terrestrial network of broadcast transmitters, ITFS stations, cable television distribution facilities, and microwave links. These facilities have enabled SC ETV to provide video and audio programming and live interactive teleconferences to locations throughout the state of South Carolina, and users in other states as well, on

an extremely cost-effective basis. Some of the services SC ETV provides to the citizens of South Carolina and other states include: instructional television to its public schools, development courses for teachers, college credit courses, medical education courses, adult literary courses, early childhood instructional programming and professional development seminars, law enforcement in-service training courses, legal continuing education courses, and on-line services.

## 2. Measurable Outcomes/Efficiencies/Costs

Among other services, SC ETV provides instructional programming to over 98 percent of the students in South Carolina's 1,109 elementary and secondary schools, allowing expanded curricula and more equitable educational opportunities throughout the state. The network offers invaluable educational resources to all of South Carolina's students, enabling them to take advanced courses in math, science, and languages produced by other educational television facilities around the country as well as a wide variety of courses originating in South Carolina

SC ETV also provides 160 college credit courses to 12,884 students. All 33 public colleges and 18 independent colleges are equipped with satellite dishes and receivers. In addition, SC ETV provides more than 1,700 hours a year of medically oriented programming to 89 locations, including hospitals, mental health offices, health education centers, rural clinics, technical schools and even correctional institutions.

SC ETV's Public Services Network delivers programming by satellite to all elements of the state's criminal justice system, as well as public safety agencies. The participating agencies realize substantial cost savings and achieve greater efficiencies by using the network for continuing education

and operational purposes. For example, police officers must receive 40 hours of in-service training every three years to remain certified. Satellite delivery of training directly to police stations, which has resulted in the instruction of 15,785 officers throughout the state, is an efficient way for local law enforcement agencies (85 percent of which have 10 or fewer officers) to provide this important training with minimal disruption of their operations.

The entire \$18 million state appropriation for SC ETV (71 percent of SC ETV's overall annual budget) is used to provide for the infrastructure and operation of the SC ETV telecommunication system. South Carolina state agencies are usually charged only 15 percent of the in-kind costs of production, plus any out-of-pocket expenses. SC ETV does not charge the State Department of Education or Higher Education for services.

## **Iowa Public Television**

#### 1. Services

The Iowa Communications Network (ICN) is a state-wide fiber optic network capable of transporting interactive, two-way audio and video, data and voice services. The ICN facilitates the sharing of Iowa's outstanding educational resources among communities and school districts, large and small. Reaching at least one educational institution in each of Iowa's 99 counties, the ICN currently has 270 video classrooms, including 193 at K- 12 schools and higher education institutions, and several at hospitals and public libraries.

The number of sites receiving ICN services is expected to grow to over 700 by the year 2000. The ICN provides interactive connections that permit the served facilities to share educational resources, analog and digital transport capabilities, and affordable access to the Internet. Medical facilities

use the ICN for diagnostic and consultative services and to provide education and training to their medical staff. Schools use the interactive distance learning classrooms to share instructional programming and to connect with experts, universities, state agencies, and other facilities that offer rich information resources. The high speed Internet connections offered by the ICN bring world resources to each learner through his/her desktop computer.

## 2. Measurable Outcomes/Efficiencies/Costs

Nearly 80 percent of all ICN video usage is sponsored by educational institutions. Over 100,000 hours of interactive video time were logged during 1995. During a recently measured 37 week period, 11,000 separate ICN video sessions occurred. An average of 350 sessions per week occurred during spring semester 1996.

The ICN provides Iowans local access to educational opportunities.

Living in rural Iowa no longer means that a citizen cannot obtain a college degree. Customized ICN training for business and industry leads to rapid economic development in rural Iowa. In addition, health care consortiums of large hospitals and smaller clinics/hospitals use the ICN to provide specialized and expanded health care to all parts of Iowa.

It is difficult to calculate the financial gains realized by the citizens of Iowa as a result of the expanded educational opportunities offered through the ICN's video and data services. The state is collecting data on the savings realized by state government's use of the ICN interactive classrooms. For example, during FY 1996, the Iowa Department of Human Services alone realized a savings in costs related to travel, meals, lodging, and productivity of over \$132,000 by using the ICN interactive classrooms for meetings and training.

ICN video rates for educational users are state-subsidized at \$5.00 per hour, per site. State agencies are charged \$10.00 per hour, per site. Federal agencies, hospitals and clinics, are charged \$40.00 per hour, per site. For the educational and public library sites developed under the first three phases of ICN build out, the state has, or will in the next two years, appropriate funds to lay or lease fiber and to equip the Fiber Optic Terminal (FOT) room at each site. Each of these sites is responsible for costs associated with remodeling and equipping its interactive classroom and the FOT room. Other authorized users of the ICN are assuming all costs of connecting to the network. This group includes such institutions and agencies as independent colleges and universities, the Iowa National Guard, hospitals/clinics, and state, federal and judicial agencies.

## New Hampshire Public Television

## 1. Services

In 1993, the NHPTV Knowledge Network, the educational arm of New Hampshire Public Television, implemented a comprehensive, fee-based educational service to which all of the K-12 schools in New Hampshire could subscribe. Beginning in September 1996, all schools will have access to this service at no cost to the schools.

The purpose of the service is to provide quality instructional television and professional development resources to New Hampshire's educational community. Using its five-transmitter, statewide broadcast network as the delivery vehicle, NHPTV broadcasts annually more than 1300 hours of instructional programming in seven curriculum areas and more than 80 hours of professional development programming

Using its satellite receive capabilities, NHPTV sponsors satellite videoconferences so that educators and students can participate in live, interactive, satellite-delivered programs. NHPTV also purchases statewide licenses for programs so that all schools with satellite-receive capabilities can access them. In addition, NHPTV distributes live programs, such as *HEB Satellite In The Classroom (Wonders Under The Sea)*, by downlinking the satellite signal and rebroadcasting it over the statewide network. NHPTV has access to a satellite uplink through the University of New Hampshire Cooperative Extension Service and uses this facility to uplink training programs for use both in New Hampshire and throughout the United States.

The NHPTV Knowledge Network operates a World Wide Web site on the Internet, The NHPTV Knowledge Network Virtual School, that provides educators with on-line access to educational resources.

## 2. Measurable Outcomes/Efficiencies/Costs

While the Knowledge Network is a subscription service, 225 of the 480 schools, with a combined enrollment of more than 75,000 students, are using components of the service. For the upcoming 1996-97 school year, it is anticipated that more than 80 percent of the schools will be participating, reaching over 140,000 students.

All services presently provided by NHPTV are covered within the station's operating budget. The costs of providing these educational services, including broadcast costs, are approximately \$600,000 per year, which is 11.6 percent of NHPTV's overall operating budget. Based on the number of students that will utilize the network in the 1996-97 school year, this results in a cost of \$4.29 per student.

## Maryland Public Television

### 1. Services

Maryland Public Television (MPT) utilizes fiber optic and other technologies to provide a variety of on-line, distance learning, and two-way interactive services to schools, libraries, and other facilities throughout the state, including educational courseware and teacher training programs to K-12 schools. By combining on-line information resources with video broadcasts, MPT facilities also allow students to take "Maryland Electronic Fieldtrips," which are integrated, interactive multimedia offerings designed to explore a broad range of subject areas.

## 2. Measurable Outcomes/Efficiencies/Costs

On an annual basis, MPT broadcasts 340 hours of instructional programming for K-12 students. The K-12 programming is available to all 1200 schools in Maryland, serving 812,000 students.

For example, the Maryland Electronic Fieldtrips were used by 750 teachers and approximately 25,000 students in FY 1996. Anecdotal evidence suggests that, at an average cost of \$10 per student per actual field trip, MPT provided \$250,000 worth of educational value, at a significant cost savings.

The activities associated with the Maryland Electronic Fieldtrips in FY 1996 were supported by external grants, so cost to the state was negligible. For FY 1997, the estimated cost to the state to serve double the number of students as the previous year is estimated at \$100,000, or less than 25 percent of the costs of actual field trips. To provide K-12 instructional video service, the Maryland Electronic Fieldtrips, and other related services, the cost to Maryland will equal approximately \$600,000, which averages about 70 cents per student.

## Mississippi Authority for Educational Television

#### 1. Services

Mississippi Authority for Educational Television (MAET) provides over-the-air educational television to all of Mississippi's elementary and secondary schools, community and junior colleges and four year colleges. The 1995-96 Instructional TV (ITV) schedule included one hundred and eighty three (183) program series ranging from art, health, foreign language courses to science, mathematics and social studies. In addition to over-the-air television receive capabilities in virtually every school, approximately 300 sites have satellite-receive facilities. Also, the Mississippi Fibernet 2000 Network now links 13 high schools, Mississippi ETV, the Mississippi Department of Education, two universities, the Waterways Experiment Station, and NASA Stennis with two way interactive capabilities.

#### 2. Measurable Outcomes/Efficiencies/Costs

The objective of the services provided is to improve the quality of classroom instruction and enhance learning opportunities for Mississippians of all ages. The Educational Services Division of MAET conducts teacher and administrator training to facilitate effective use of ITV programs and ancillary materials, as well as new and emerging technologies. During the 1995-96 school year, 5700 educators received training; 92 percent of school districts responding to an ITV survey reported using ITV in the classroom; 534 high school students and 370 college students completed courses taught over Fibernet. An additional 490 students enrolled in Adult Learning Service (ALS) courses broadcast over ETV. The numbers reached by satellite are in excess of 20,000 persons.

Mississippi is a very rural state with a significant portion of its population living at or below poverty level. Consequently, equity of educational opportunity between the schools has always been a serious concern. Distance learning programs provided through Mississippi ETV are giving poorer, more rural districts the opportunity to offer high quality courses they would other wise not be able to provide for their students.

Mississippi ETV utilizes various funding mechanisms to support the satellite, fiber optics, T-1 circuits, broadcast television and ITFS facilities used to deliver educational programming, making it difficult to determine costs. For example, satellite delivery of the Calculus Series, produced by Mississippi ETV, last year was funded by the Satellite Educational Resource Consortium (SERC). Fiber optic and T-1 circuits are used to deliver interactive video courses via Fibernet 2000. Mississippi has negotiated a special tariff for telecommunications service to K-12 and educators. Network services are provided by Bell South at a discounted rate, at a total cost of \$250,000 per year. Eighteen sites are included in this network with service provided under the Distance Learning Transport Tariff.

## Idaho Public Television

## 1. Services

Idaho Public Television (IPTV), which reaches 97 percent of the population of Idaho, provides Instructional Television (ITV) material for K-12 teachers and Adult Learning Services ("ALS") telecourses, offered for credit by Idaho institutions. In addition, IPTV provides a portion of its statewide microwave system to the higher education institutions of Idaho to offer classes to students at other in-state institutions, as well as offering the PBS

Ready-to-Learn, National Teacher Training Institute and GED programs. Idaho is also very involved in the planning for "Virtual University."

## 2. Measurable Outcomes/Efficiencies/Costs

In the K-12 area, IPTV services are available to all teachers in Idaho, which numbered 13,990 in the 1995-96 school year. Based on teacher participation in National Teacher Training Institute held by IPTV the last two years, it is expected that in the 1996-97 school year at least 2,500 teachers will be using IPTV services on a consistent basis. Through IPTV broadcasts, the state saves resources by not having to purchase multiple copies of educational and training materials that are instead offered in the telecourses for each school district.

In FY 1995 there were 600 college students registered for IPTV provided telecourses, and the number is growing. This allows location bound students in the very small rural areas of Idaho to receive credits toward a degree. This service saves money and resources in several ways. Students can improve their education without leaving home, and institutions can offer credit to students without an instructor leaving campus.

In the Fall Semester of the 1996-97 school year, IPTV will deliver 32 courses from professors from one in-state college or university to students in other such institutions via the in-state digital microwave system. This saves the costs of establishing duplicative programs at every institution, as well as travel costs for instructors.

IPTV is a Ready to Learn site offering training to teachers, day-care providers and parents. As of June 1, 1996, such training provided to these groups reached at least 1,800 children. IPTV also offers GED, underwritten by

the Idaho Department of Vocational Education, which is used by state residents and by the Idaho Department of Corrections for its state prisoners.

### CONCLUSION

In response to Questions 6 and 18 of the Joint Board's questions, APTS and PBS offer the information set forth above. As made clear in this response and in the previous APTS and PBS filings in this proceeding, public television offers the people of our country a wealth of diverse and expansive educational services. In developing rules to ensure universal access for schools, libraries, and health care facilities to telecommunications services, the Commission and Joint Board should include provisions to encompass the interactive video and on-line services provided by public television.

Respectfully submitted,

Paula &. Jameson

Senior Vice President, General Counsel and Secretary

Gary P. Poon

Assistant General Counsel

Public Broadcasting Service 1320 Braddock Place Alexandria, VA 22314-1698 (703) 739-5056

August 2, 1996

Marilyn Mohrman-Gillis

Vice President, Policy & Legal Affairs

Lonna M. Thompson Director, Legal Affairs

Association of America's Public Television Stations 1350 Connecticut Avenue, N.W., Suite 200 Washington, DC. 20036 (202) 887-8401

## CERTIFICATE OF SERVICE

I, Tina T. Butler, hereby certify that copies of the foregoing "Further Comments of Association of America's Public Television Stations and Public Broadcasting Service" have been mailed this 2nd day of August, 1996, by United States first-class mail, postage prepaid, to the following:

The Honorable Reed E. Hundt, Chairman Federal Communications Commission 1919 M Street, N.W. Room 814 Washington, D.C. 20554

The Honorable Rachelle B. Chong, Commissioner Federal Communications Commission Room 844 1919 M Street, N.W. Washington, D.C. 20554

The Honorable Susan Ness, Commissioner Federal Communications Commission 1919 M Street, N.W. Room 832 Washington, D.C. 20554

The Honorable Julia L. Johnson, Commissioner Florida Public Service Commission Capital Circle Office Center 2540 Shumard Oak Blvd. Tallahassee, FL 32399-0850

The Honorable Kenneth McClure, Vice Chairman Missouri Public Service Commission 301 W. High Street, Suite 530 Jefferson City. MO 65102 Martha S. Hogerty Public Counsel for the State of Missouri P.O. Box 7800 Harry S. Truman Building, Room 250 Jefferson City, MO 65102

The Honorable Sharon L. Nelson, Commissioner Washington Utilities and Transportation Commission P.O. Box 47250 Olympia, WA 98504-7250

The Honorable Laska Schoenfelder, Commissioner South Dakota Public Utilities Commission 500 East Capitol Avenue Pierre, SD 57501

Deborah Dupont, Federal Staff Chair Federal Communications Commission 2000 L Street, N.W. Washington, DC 20036

Paul E. Pederson, State Staff Chair Missouri Public Service Commission P.O. Box 360 Truman State Office Building Jefferson City, MO 65102

Eileen Benner Idaho Public Utilities Commission P.O. Box 83720 Boise, ID 83720-0074

Charles Bolle South Dakota Public Utilities Commission State Capital, 500 E. Capital Avenue Pierre, SD 57501-5070

Lorraine Kenyon Alaska Public Utilities Commission 1016 West Sixth Avenue, Suite 400 Anchorage, AK 99501 Debra M. Kriete Pennsylvania Public Utilities Commission P.O. Box 3265 Harrisburg, PA 17105-3265

Mark Long Florida Public Service Commission 2540 Shumard Oak Blvd. Gerald Gunter Building Tallahassee, FL 32399-0850

Samuel Loudenslager Arkansas Public Service Commission P.O. Box 400 Little Rock, AR 72203-0400

Sandra Makeeff Iowa Utilities Board Lucas State Office Building Des Moines, IA 50319

Philip F. McClelland Pennsylvania Office of Consumer Advocate 1425 Strawberry Square Harrisburg, PA 17120

Michael A. McRae D.C. Office of the People's Counsel 1133 15th Street, N.W. - Suite 500 Washington, DC 20005

Terry Monroe New York Public Service Commission Three Empire Plaza Albany, NY 12223

Mark Nadel Federal Communications Commission 1919 M Street, N.W. Washington, DC 20554

Lee Palagyi Washington Utilities and Transportation Commission P.O. Box 47250 Olympia, WA 98504-7250 Jeanine Poltronieri Federal Communications Commission 2000 L Street, N.W. - Suite 257 Washington, DC 20036

James Bradford Ramsay National Association of Regulatory Utility Commissioners 1201 Constitution Avenue, N.W. Washington, DC 20423

Jonathan Reel Federal Communications Commission 2000 L Street, N.W. - Suite 257 Washington, DC 20036

Brian Roberts California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA 94102-3298

Gary Seigel Federal Communications Commission 2000 L Street, N.W. - Suite 812 Washington, DC 20036

Pamela Szymczak Federal Communications Commission 2000 L Street, N.W. - Suite 257 Washington, DC 20036

Whiting Thayer Federal Communications Commission 2000 L Street, N.W. - Suite 812 Washington, DC 20036

Alex Belinfante Federal Communications Commission 2000 L Street, N.W. Washington, DC 20036

Larry Povich Federal Communications Commission 2000 L Street, N.W. Washington, DC 20036

ma Sutler
Ting T. Butler